



# Maryland Vital Statistics

## Infant Mortality in Maryland, 2014

September 2015

### FAST FACTS

- Maryland's infant mortality rate in 2014 was 6.5 per 1,000 live births, a slight decline from the 2013 rate of 6.6.
- The infant mortality rate fell by 7% between 2013 and 2014 among white infants, and rose by 2% among black infants.
- The neonatal mortality rate increased by 2% and the postneonatal mortality rate declined by 10% between 2013 and 2014.
- The leading causes of infant death in 2014 were low birth weight, congenital abnormalities, sudden infant death syndrome, maternal complications of pregnancy, and complications of the placenta, cord and membranes.
- The average infant mortality rate has fallen by 15% in Maryland over the past decade, with a 14% decline in the average rate among white infants and a 17% decline among black infants. Both neonatal and postneonatal mortality rates have fallen substantially.
- Despite the statewide decline in the infant mortality rate over the past decade, there are areas of the State where rates have been increasing.

### Trends

The infant mortality rate in Maryland was 6.5 per 1,000 live births in 2014, a slight decline from the 2013 rate of 6.6. Although there were two more infant deaths in 2014 than in 2013 (476 vs. 474), the mortality rate declined because the number of live births increased in 2014.

There were 181 deaths among infants born to white women, 260 deaths among infants born to black women, 24 deaths among infants born to Asian women, and 48 deaths among infants born to Hispanic women, who may be any race. The slight improvement in the overall infant mortality rate between 2013 and 2014 was the result of a 7% decline in the white infant mortality rate, which fell from 4.5 in 2013 to 4.2 in 2014. The black infant

Figure A. Infant Mortality Rates by Race and Black to White Ratio, Maryland, 2005-2014.

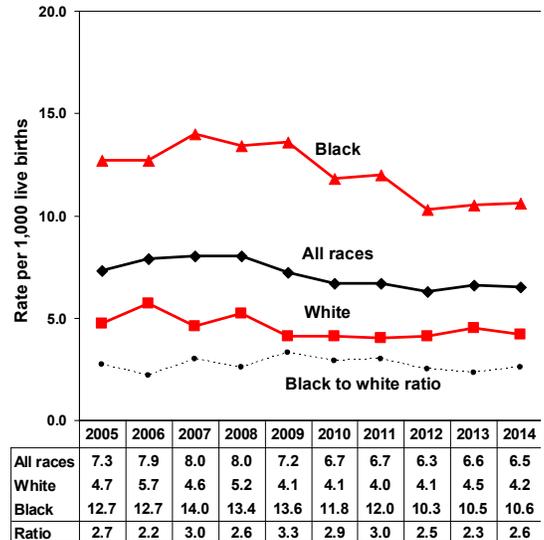


Table 1. Infant, Neonatal and Postneonatal Mortality Rates\* for Selected Years, Maryland.

	Rate* by year		Average rate*	
	2013	2014	2005-09	2010-14
<b>Infant mortality</b>				
All races**	6.6	6.5	7.7	6.6 ***
White	4.5	4.2	4.9	4.2 ***
Black	10.5	10.6	13.3	11.0 ***
<b>Neonatal mortality</b>				
All races**	4.5	4.6	5.6	4.7 ***
White	3.1	2.8	3.5	3.0 ***
Black	7.3	7.7	9.7	8.0 ***
<b>Postneonatal mortality</b>				
All races**	2.1	1.9	2.1	1.8 ***
White	1.4	1.4	1.4	1.2
Black	3.1	2.9	3.6	3.1 ***

\*Per 1,000 live births  
 \*\*Includes races other than White and Black  
 \*\*\*Rates for 2005-2009 and 2010-2014 differ significantly (p<.05)

mortality rate increased slightly, from 10.5 in 2013 to 10.6 in 2014 (Table 1).

Infant mortality rates have improved substantially in Maryland over the past decade, falling from an average rate of 7.7 per 1,000 live births during the years 2005-2009 to an average of 6.6 per 1,000 live births during 2010-2014. This 14% decline was statistically significant. There were also statistically significant declines in rates for both major racial groups over the past decade; the average rate fell by 14% among whites and by 17% among blacks (Table 1).

### Age at Time of Death

The overall neonatal mortality rate (deaths to infants under 28 days of age per 1,000 live births) increased slightly from 4.5 in 2013 to 4.6 in 2014 (Table 1). The rate fell by 10% among white infants but increased by 5% among black infants. The postneonatal mortality rate (deaths from 28 days through 11 months of age per 1,000 live births) fell by 10% overall, from 2.1 in 2013 to 1.9 in 2014. Postneonatal mortality rates were unchanged

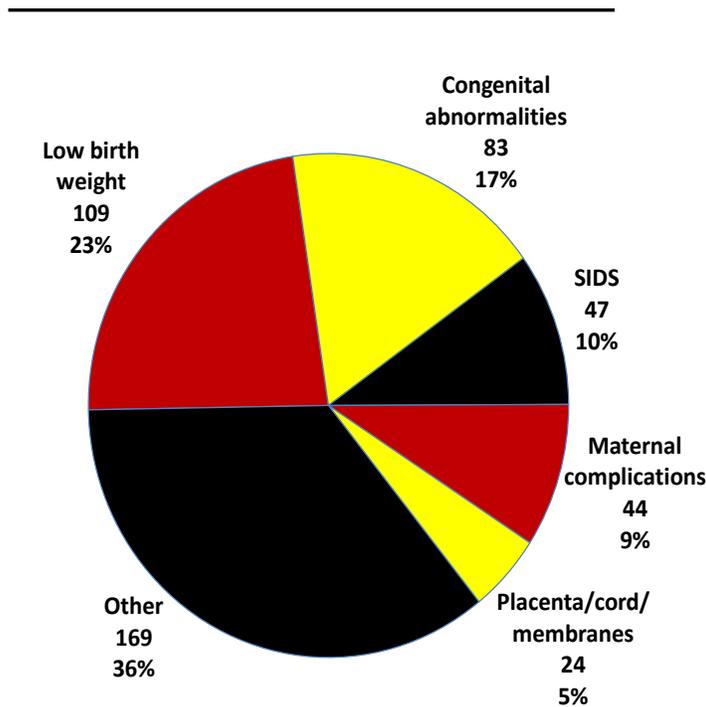
among white infants and fell among black infants (Table 1). Neonatal and postneonatal mortality rates have both shown statistically significant declines over the past 10 years. From 2005-2009 to 2010-2014, the average neonatal mortality rate declined by 15% overall and among white infants, and by 17% among black infants. Postneonatal mortality rates fell by 13% overall and among white infants, and by 16% among black infants.

### Causes of death

The leading causes of infant death in 2014 were disorders relating to short gestation and unspecified low birth weight (“LBW”); congenital malformations, deformations, and chromosomal abnormalities (“congenital abnormalities”); Sudden Infant Death Syndrome (“SIDS”); maternal complications of pregnancy; and complications of the placenta, cord and membranes.

Maternal complications of pregnancy include conditions such as premature rupture of membranes and cervical incompetence. (Figure B). Congenital abnormalities were the leading cause of death among white infants, and low birth weight was the leading cause of death among black infants.

**Figure B. Leading Causes of Infant Death, Maryland, 2014.**



Although there were no statistically significant changes between 2013 and 2014 in death rates for any of the major causes of infant death, the number of deaths resulting from congenital abnormalities increased by 21% between the two years. This increase was due in large part to a rise in the number of deaths from Edwards’ Syndrome and Patau’s Syndrome, which increased from nine in 2013 to 18 in 2014.

The leading causes of neonatal mortality in 2014 were LBW, maternal complications of pregnancy, and congenital abnormalities. Sudden Infant Death Syndrome and congenital abnormalities were the leading causes of postneonatal mortality.

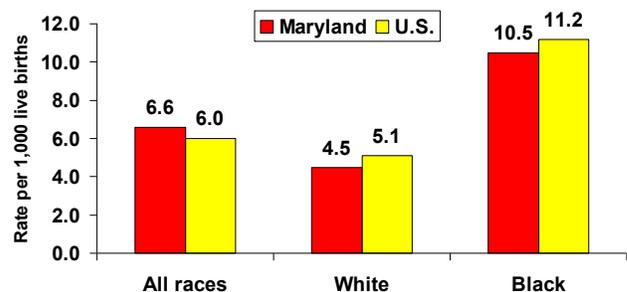
Cause-specific mortality rates continue to be higher for black infants than white infants for all leading causes of death. Compared with white infants, black infants were seven times more likely to die in 2014 as a result of maternal complications of pregnancy, four times more likely to die as a result of LBW, and twice as likely to die from SIDS.

### Comparison of rates in Maryland and the U.S.

Maryland’s infant mortality rate for all races combined has historically been higher than the national rate, mainly because the Maryland population is comprised of a higher proportion of black residents, a group with typically higher infant mortality rates than whites. While white infant mortality rates have generally been lower in Maryland than in the nation, black rates have also been lower in Maryland than nationally in recent years.

Figure C shows a comparison of infant mortality rates in Maryland and the U.S. in 2013, the most recent year for which national data are available.

**Figure C. Infant Mortality Rates by Race, Maryland and the U.S., 2013.**



## Regional and county differences

The number of infant deaths and infant mortality rates by race, region, and political subdivision for 2013 and 2014 are shown in Table 2. The only statistically significant changes between 2013 and 2014 occurred in Baltimore County, where there was a decline in the white infant mortality rate, and an increase in the black infant mortality rate.

Over the past decade, the average infant mortality rate

declined in all regions of the State except in the Eastern Shore area, where the average rate increased by 10% between 2005-2009 and 2010-2014. Despite the overall increase in this region, there was a statistically significant decline in the infant mortality rate in Dorchester County. Elsewhere in the State, rates declined significantly in Baltimore City as well as in Anne Arundel, Baltimore, Montgomery, Prince George's Counties. (Table 3).

**TABLE 2. INFANT DEATHS AND INFANT MORTALITY RATES BY RACE, REGION AND POLITICAL SUBDIVISION, MARYLAND, 2013 AND 2014.**

Region and political subdivision	ALL RACES				WHITE				BLACK			
	Number of infant deaths		Infant mortality rate*		Number of infant deaths		Infant mortality rate*		Number of infant deaths		Infant mortality rate*	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
<b>Maryland</b>	<b>474</b>	<b>476</b>	<b>6.6</b>	<b>6.5</b>	<b>190</b>	<b>181</b>	<b>4.5</b>	<b>4.2</b>	<b>250</b>	<b>260</b>	<b>10.5</b>	<b>10.6</b>
<b>Northwest Area</b>	<b>31</b>	<b>34</b>	<b>5.7</b>	<b>6.1</b>	<b>19</b>	<b>26</b>	<b>4.1</b>	<b>5.5</b>	<b>10</b>	<b>8</b>	<b>18.2</b>	<b>12.8</b>
Garrett	3	4	**	**	2	3	**	**	0	1	-	**
Allegany	6	6	8.9	**	4	6	**	9.5	2	0	**	-
Washington	9	14	5.3	7.7	4	7	**	4.6	5	7	22.5	29.2
Frederick	13	10	4.8	3.6	9	10	4.0	4.4	3	0	**	-
<b>Baltimore Metro Area</b>	<b>227</b>	<b>235</b>	<b>6.9</b>	<b>7.0</b>	<b>94</b>	<b>82</b>	<b>4.9</b>	<b>4.1</b>	<b>123</b>	<b>142</b>	<b>11.2</b>	<b>12.6</b>
Baltimore City	91	92	10.3	10.4	20	21	6.8	7.1	69	71	12.5	12.8
Baltimore County	61	69	6.4	6.9	31	18	5.6	3.1 ***	25	47	8.2	14.6 ***
Anne Arundel	38	40	5.6	5.7	23	20	4.4	3.8	13	16	10.5	12.7
Carroll	7	5	4.5	3.1	6	5	4.1	3.3	1	0	**	-
Howard	16	16	4.7	4.5	6	6	3.1	3.1	9	7	13.4	8.9
Harford	14	13	5.2	4.8	8	12	3.8	5.5	6	1	13.0	**
<b>National Capital Area</b>	<b>153</b>	<b>148</b>	<b>6.1</b>	<b>5.8</b>	<b>46</b>	<b>41</b>	<b>3.8</b>	<b>3.3</b>	<b>89</b>	<b>84</b>	<b>8.7</b>	<b>8.1</b>
Montgomery	61	63	4.7	4.8	26	29	3.2	3.6	27	24	9.6	8.3
Prince George's	92	85	7.8	6.9	20	12	5.2	2.9	62	60	8.4	8.0
<b>Southern Area</b>	<b>24</b>	<b>27</b>	<b>5.9</b>	<b>6.4</b>	<b>11</b>	<b>13</b>	<b>4.0</b>	<b>4.6</b>	<b>11</b>	<b>14</b>	<b>9.4</b>	<b>11.6</b>
Calvert	2	6	**	6.6	0	5	-	6.5	2	1	**	**
Charles	14	11	7.8	5.9	7	4	8.0	**	6	7	7.2	8.4
Saint Mary's	8	10	5.9	6.8	4	4	**	**	3	6	**	23.4
<b>Eastern Shore Area</b>	<b>39</b>	<b>32</b>	<b>8.3</b>	<b>7.1</b>	<b>20</b>	<b>19</b>	<b>5.6</b>	<b>5.6</b>	<b>17</b>	<b>12</b>	<b>17.0</b>	<b>11.9</b>
Cecil	7	5	6.3	5.3	5	4	4.9	**	2	1	**	**
Kent	3	0	**	-	1	0	**	-	2	0	**	-
Queen Anne's	3	3	**	**	3	3	**	**	0	0	**	-
Caroline	4	2	**	**	3	2	**	**	0	0	**	-
Talbot	2	3	**	**	0	3	**	**	2	0	**	-
Dorchester	3	1	**	**	2	1	**	**	1	0	**	-
Wicomico	12	12	10.3	9.9	2	5	**	6.8	9	6	22.8	13.6
Somerset	2	4	**	**	2	1	**	**	0	3	-	**
Worcester	3	2	**	**	2	0	**	-	1	2	**	**

\*Per 1,000 live births

\*\*Rates based on <5 deaths are not shown since rates based on small numbers are statistically unreliable.

\*\*\*Rates for 2013 and 2014 differ significantly (p<.05).

TABLE 3. NUMBER OF INFANT DEATHS, AVERAGE INFANT MORTALITY RATE BY FIVE YEAR INTERVAL AND PERCENT CHANGE IN RATES BETWEEN INTERVALS BY REGION AND POLITICAL SUBDIVISION, MARYLAND, 2005-2009 AND 2010-2014.

Region and political subdivision	Number of infant deaths		Average infant mortality rate*		Percent change**
	2005-2009	2010-2014	2005-2009	2010-2014	
<b>Maryland</b>	<b>2940</b>	<b>2397</b>	<b>7.7</b>	<b>6.6</b>	<b>-14.5 ***</b>
<b>Northwest Area</b>	<b>165</b>	<b>134</b>	<b>5.6</b>	<b>4.9</b>	<b>-13.4</b>
Garrett	4	11	2.7	7.7	189.2
Allegany	22	24	6.3	7.0	11.5
Washington	57	45	6.2	5.1	-16.7
Frederick	82	54	5.4	3.9	-28.5
<b>Baltimore Metro Area</b>	<b>1404</b>	<b>1145</b>	<b>8.1</b>	<b>6.9</b>	<b>-14.7 ***</b>
Baltimore City	585	462	12.1	10.4	-14.6 ***
Baltimore County	378	309	7.6	6.3	-16.5 ***
Anne Arundel	235	190	6.7	5.5	-17.5 ***
Carroll	36	30	4.0	3.8	-5.5
Howard	91	88	5.4	5.1	-4.7
Harford	79	66	5.3	4.9	-7.8
<b>National Capital Area</b>	<b>1025</b>	<b>821</b>	<b>7.8</b>	<b>6.5</b>	<b>-16.7 ***</b>
Montgomery	412	316	6.0	4.8	-20.2 ***
Prince George's	613	505	9.8	8.4	-14.3 ***
<b>Southern Area</b>	<b>164</b>	<b>115</b>	<b>7.6</b>	<b>5.5</b>	<b>-27.4 ***</b>
Calvert	30	22	6.2	4.8	-22.2
Charles	82	57	8.6	6.2	-28.2
St. Mary's	52	36	7.1	5.1	-29.2
<b>Eastern Shore Area</b>	<b>182</b>	<b>182</b>	<b>6.9</b>	<b>7.6</b>	<b>10.2</b>
Cecil	28	33	4.4	6.0	35.5
Kent	7	6	7.3	6.9	-5.8
Queen Anne's	14	15	5.3	6.5	22.3
Caroline	17	17	7.3	8.6	16.8
Talbot	7	14	3.8	8.4	118.8
Dorchester	33	12	16.5	6.3	-61.7 ***
Wicomico	52	54	7.9	8.8	11.1
Somerset	12	12	9.1	9.1	0.3
Worcester	12	19	5.0	8.6	71.4

\*Per 1000 live births.

\*\*Percent change is based on the exact rates and not the rounded rates presented here.

\*\*\*Rates for 2005-2009 and 2010-2014 differ significantly ( $p < .05$ ).



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